

M I C H I G A N F O R E S T P E S T

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COOPERATING AGENCIES

U.S. Bureau of Entomology and Plant Quarantine,
State Department of Agriculture, Michigan State College,
University of Michigan, U.S. Forest Service,
and Michigan Department of Conservation

MICHIGAN FOREST PEST DETECTION PROGRAM

REPORT FOR 1952

Introduction

The Michigan Forest Pest Detection Program was organized in the spring of 1950 through the cooperative efforts of several state and federal agencies. The goal of this program is a co-ordinated approach to the problem of forest insects and diseases on a statewide basis, employing the facilities of the various participating agencies, each contributing in its respective field.

These cooperating agencies are: the U. S. Bureau of Entomology and Plant Quarantine, the Bureau of Plant Industry of the State Department of Agriculture, the Departments of Entomology and Plant Pathology of Michigan State College, the School of Natural Resources of the University of Michigan, the U. S. Forest Service, and the Forestry Division of the Michigan Department of Conservation.

The following report of the activities of the Forest Pest Detection Program for 1952 was compiled by the Forestry Division of the Michigan Department of Conservation.

1952 ACTIVITIES

MEETINGS

Milwaukee**

On February 14, the second annual conference on forest insect surveys in the Lake States was held in Milwaukee. The purpose of this meeting was two-fold: (1) to review developments in the organization and operation of forest insect survey programs of state and federal agencies in the tri-state area, and (2) to discuss reconnaissance and appraisal surveys and procedures for certain specific insects.

The conference brought together federal and state entomologists directly concerned with the development of surveys, or acting as technical advisors, and foresters from the respective State Conservation Departments and the U. S. Forest Service concerned with protecting forest resources from insect damage.

Mr. C. B. Eaton, chairman of the meeting, directed discussion around the following topics:

- A. Forest pest detection surveys
 - 1. Basic plans, developments, plans for 1952, and needs.
 - 2. Need for training programs and training aids, pamphlets, slides, etc.
 - 3. Developments and plans for annual reports on forest insect conditions.
- B. Legislation; needs for enabling legislation to cover cooperative undertakings.
- C. Industry interest and participation in forest pest programs at various forest insect conferences during the past year; needs for regional advisory committee.
- D. Reconnaissance or appraisal survey procedure on specific insect problems.

Sault Ste. Marie

March 12 - A meeting was held at the Conservation Department Equipment Station to inquire into the needs and the possibilities of setting up a privately-sponsored control project for the forest tent caterpillar during the 1952 season.

**The following notes of the Milwaukee meeting were taken from the digest of the meeting, prepared and distributed to all participants by the Milwaukee Forest Insect Laboratory.

Those in attendance were Lyle Abel, county agricultural agent for Chippewa County; Clarence Paquin, chairman of the Soo Chamber of Commerce; Glenn Gregg, Soo Evening News; Norman F. Smith, Wesley Lehmann, and Richard C. Fox, Forestry Division of the Michigan Department of Conservation. Following a general discussion, the decision was made to hold a general public meeting to determine the public reaction to financing a control program on private lands.

March 24 - The above-proposed public meeting was held in the City Hall with Mr. Abel as chairman. Following a discussion by Fox of the caterpillar situation, the position of state and federal agencies regarding control measures on public lands was presented. The control possibilities were then outlined and discussed with the several ground and aerial spray operators that were present. It was decided to insert a coupon in the Soo paper to be sent in by parties interested in a spray project on their own lands. This would enable an estimate to be made of overall public reaction and also indicate whether or not enough money would be pledged to retain the services of an aerial spray operator. Although many efforts were made by all the public agencies concerned, this plan resulted in few replies and was consequently dropped.

SPECIAL SURVEYS

Forest Tent Caterpillar

This insect was again present in epidemic numbers in the eastern end of the Upper Peninsula and the northern tip of the Lower Peninsula. In an attempt to keep close track of the progression of the outbreak, several surveys were made during the spring and summer months. The results of these surveys have been incorporated into a special report and distributed to cooperating agencies and individuals. A brief summary of these surveys follows:

Aerial survey - On June 25, an aerial survey was conducted to determine the extent of defoliation by the larvae of the forest tent caterpillar. Using a Conservation Department plane, personnel of the Forestry Division surveyed the Upper and Lower Peninsula outbreak and mapped the boundaries of the heavily defoliated areas.

Cocoon Mortality Survey - During the week of July 7 - 11, a series of cocoon collections was made throughout the outbreak of both peninsulas to determine the percentage of cocoon mortality as a result of parasite attack. A report of the findings of this survey was prepared and distributed to all cooperating agencies and field men.

Egg Mass Survey - A widespread egg mass survey was carried out by several agencies during the fall to determine the approximate population densities in the infested areas for 1953. Collections on state and private lands within the boundaries of the Munuscong, Mackinac, Grand Sable, Black Lake, and Pigeon River State Forests were made by Forestry Division personnel; collections within the

boundaries of the Marquette National Forest were made by Rangers Elliot and Wilson; counts on certain private lands in Chippewa, Mackinac, and Luce Counties were made by Paul Flink, forest entomologist for the Kimberly-Clark Corporation.

Walkingstick

An aerial survey was made on September 25 to map the distribution of the walkingstick outbreak in the Ogemaw County area. This survey showed heavy defoliation over approximately 21,500 acres in the west half of Ogemaw County.

Larch Sawfly

During the latter part of August and the first part of September, the tamarack permanent observation areas and several other locations in the Upper Peninsula were carefully surveyed for the presence of the larch sawfly. This was, in many cases, in addition to the normal detection checks made by the District Foresters. This survey showed the presence of this insect at 36 locations scattered throughout the peninsula with the exception of Menominee and Chippewa Counties.

Oak Wilt

Oak wilt disease was definitely confirmed in Michigan in June, 1951 from samples collected in Cass County. Following this diagnosis by the Department of Botany and Plant Pathology of Michigan State College, an aerial survey of 13 southern counties was made, which, together with ground observations, turned up 33 positive cases. The survey was flown by Conservation Department plane, for the most part at 4-mile intervals at an elevation of 1200 feet giving somewhat less than a 50 percent check.

Aerial surveys were again conducted in the summer of 1952 in 12 counties lying above those done in 1951 in an effort to determine, if possible, the northern limits of the disease. In addition, three areas flown in 1951 were re-flown in 1952. Collections were made at 65 locations, 28 (43 percent) of which were determined to be positive. All cases were diagnosed in the Dutch Elm Disease-Oak Wilt Laboratory at Michigan State College. The most northerly case revealed by the survey was in northern Kent County. In addition, 21 new wilt locations were discovered in counties covered the year before.

While 33 cases were listed in last year's report as having been found in 1951, a corrected final summary brought the total to only 29. With the 28 found in 1952, a total known locations now stands at 57. Since the method of survey to date gives slightly less than 50 percent coverage, the total number is probably at least twice this figure.

Another phase of the oak wilt project in 1952 was the rechecking of positive locations found in 1951 to observe the course of the disease; and in addition checking locations which were suspicious in 1951 but which could not be confirmed at that time. A total of 17 positive 1951 wilt locations were checked, 12 of which were found to have no new dying trees while five had newly wilted trees. However, none of the new infections were within root range of the originally infected trees, indicating some other means of spread than through root grafts. Failure to find new dying in known oak wilt locations does not mean that the disease is finished there. It has been observed in other states to skip one or more years and then re-appear.

Initial steps in oak wilt control were begun in 1952 when it was decided to have district foresters contact owners of infected woodlots, explain the oak wilt problem to them, and attempt to get removal of the trees on a voluntary basis. Of the 49 cases reported on during this fall and winter, nine had already cut the wilt-killed trees, and 27 agreed to cut them. Owners in the remaining 13 cases could not be contacted directly for one reason or another, although letters were sent to four of them and information left for three more. A follow-up of those cases will be made in 1953.

A total of 46.8 flying hours were expended in the 1952 survey at a cost for plane and pilot of \$323.02. Aerial observation and ground checking was done by personnel from the college, the State Department of Agriculture, and the Conservation Department.

OBSERVATION REPORTS

As in 1951, there was a rather sizeable increase in the number of observation reports made during 1952. Throughout the season, a total of 1289 reports were received from District Foresters and Lansing office personnel. Of these reports, 1249 covered insects on the critical list, with 47 percent of these being positive reports. In addition, 60 reports on four critical insects were received from Bureau of Entomology and Plant Quarantine personnel, and 21 reports from Forest Service personnel. The grand total of 1370 reports represents an increase of 296 reports over 1951.

Due in part to the addition of the forest tent caterpillar to the critical list in 1952, there was an increase of 106 permanent observation areas throughout the state.

DIRECT CONTROL ACTIVITIES

Saratoga Spittlebug

Black Lake State Forest

An aerial spray project was conducted on July 24-26 on the Black Lake State Forest for the control of the Saratoga Spittlebug (*Aphrophora saratogensis*, Fitch). A total of 400 acres of red and jack pine plantations were sprayed using an oil spray containing one pound of technical DDT per gallon of fuel oil and solvent and applied at the rate of one gallon per acre. Costs of application were \$2.58 per acre for purchase and application of the required amount of the compounded insecticide. Samples taken two to three days after spraying showed a 93 percent mortality.

As this plantation was very heavily infested and the emergency control measures were applied a few days later than they should have been, the area will be very closely watched to determine if another spray application should be made in 1953.

A detailed report of this project was prepared and distributed to District and Regional Foresters and Detection Program cooperators.

Manistee National Forest*

On August 5, 215 acres of Saratoga Spittlebug infested red pine plantations were sprayed by mist blower using DDT at a dosage of one pound per gallon per acre. The project was evaluated on August 8 and controls of from 94 to 99 percent were obtained.

Ottawa National Forest*

During the period from July 28 to August 3, an aerial spray project was conducted over 1100 acres of red pine plantations to control the Saratoga Spittlebug. An oil solution of DDT was applied at the rate of one pound of DDT per gallon per acre. There is no official evaluation data available on this project.

European Pine Sawfly

A virus disease affecting the larvae of the European pine sawfly, (*Neodiprion sertifer*, Geoff.), was artificially disseminated at three locations in southern Michigan during May, 1952. These locations were in the University of Michigan's Stinchfield Woods northwest of Dexter; at the W. J. Kellogg Forest north

*Data received from the U. S. Forest Service and the Bureau of Entomology and Plant Quarantine.

of Augusta. At each dissemination site, a stock virus suspension, obtained from the Forest Insect Laboratory in Sault Ste. Marie, Ontario, was used. This experimental project was carried out to determine the effect of the virus disease upon local sawfly infestations as well as to try to introduce and establish the virus in the state.

In all dissemination areas, very heavy kills were obtained, but at the present time, it cannot be determined whether this virus disease is still present in the sprayed plots or if it ever will become a factor in the natural control of this insect in Michigan. Further dissemination and study will be made in subsequent seasons.

A detailed report of this project was prepared and circulated to field men and program cooperators.

European Pine Shoot Moth

Manistee National Forest*

After detection of this pest in the Cadillac district of the Forest, far to the north of its known range, 54 acres of red pine plantations were sprayed twice using a mist blower. The first application was made on July 3; the second, on July 14. The insecticide, DDT, was applied at the rate of one pound per gallon per acre. Evaluation of the project is to be conducted in 1953.

SUMMARY OF PEST CONDITIONS

CRITICAL INSECTS

Jack Pine Budworm (Choristoneura sp.)

The outbreaks of the jack pine budworm continued throughout most of the northern half of the Lower Peninsula in 1952. The centers of the population have shifted to the north and west since 1951 with the heaviest damage this year being inflicted in Montmorency County. Heavy infestations were also reported from Kalkaska, Wexford, Grand Traverse, Cheboygan, Presque Isle, and Ogemaw Counties. Late in the season, a new infestation was discovered in the pine plains in northern Luce County in the Upper Peninsula. There was a total of 185 reports on this insect during the season, 74 of them showing the presence of the pest. Of these 74 positive reports, only 24 percent showed defoliation of over 40 percent. This is in accordance with field observations which indicated a general decrease in abundance of this insect in the older areas of infestations. As in 1951, tree losses have been relatively light except to understory saplings and reproduction. The silvicultural control measures instigated in 1950 took a setback through the loss of a favorable jack pine pulpwood market throughout most of 1952. The effect that this situation will have on population maintenance cannot be determined at the present time.

*Data received from the U. S. Forest Service and the Bureau of Entomology and Plant Quarantine.

Red-headed Pine Sawfly (Neodiprion lecontei, Fitch)

There was little change in the overall populations of this insect. Only 12 reports out of a total of 173 showed the presence of the insect. At two points, Emmet and Chippewa Counties, severe infestations were found in roadside plantings with complete defoliation present on several trees at each site. Field observations indicate that a general population increase is soon to be expected.

Larch Sawfly (Pristophora erichsonnii, Htg.)

During the season, a total of 113 reports were received from District Foresters and Bureau of Entomology and Plant Quarantine personnel on this insect. Thirty-six of these reports were positive. All of the positive reports were from the Upper Peninsula and indicated only light defoliation. These points of infestation are scattered throughout the peninsula with the exception of Menominee and Chippewa Counties. The center of the populations appears to be in Baraga and Houghton Counties. (See Special Surveys)

European Pine Sawfly (Neodiprion sertifer, Geoff.)

The number of observation reports on this insect more than doubled during the 1952 season thereby giving much better observation coverage over the southern half of the Lower Peninsula, the present distribution of the pest. As was indicated in 1951, this pest is distributed rather uniformly in red, Scotch, and Austrian pine plantations throughout this region. There were 64 reports in 1952, with 44 of them being positive. The most severe infestations were reported from Washtenaw, Livingston, and Lapeer Counties with heavy damage also in Kent and Hillsdale Counties. A slight general increase in the abundance of this sawfly was noted in 1952. This increase will probably continue to be the case because of the tremendous increase in the number of pine plantations during the past few years. An experimental project using a virus disease affecting the larvae of this insect was conducted during May with excellent preliminary results. (See Direct Control Measures)

European Pine Shoot Moth (Rhyacionia buoliana, Schiff.)

The observation coverage for this insect was more complete in 1952 because of its inclusion on the critical list for the state forest districts in the northern half of the Lower Peninsula. This was necessary because of the discovery of infestations of this pest near Cadillac in Wexford County and near Beulah in Benzie County. These detections were received with no little alarm as the northern distribution of this insect was thought to be limited by prolonged winter cold. Because of the threat to adjacent red pine plantings, the Cadillac infestation was sprayed by the U. S. Forest Service. (See Direct Control Measures) Of the 80 reports on this insect, 32 were positive and showed that the heaviest injury was being inflicted in Muskegon, Ingham, and Lenawee Counties. This should serve to point out the rather uniform distribution of this pest over the

southern part of the state. Field observations detected little change in the amount of tree injury but there was a slight increase in the number of susceptible trees attacked on the permanent observation areas.

Pine Spittlebug (Aphrophora parallela, Say)

There were 103 reports on this pest, 41 of them being positive. These reports showed this insect to be present in nearly all natural pine areas but only in few places is serious injury resulting. Presque Isle and Marquette Counties reported up to 60 percent injury in some areas.

Saratoga Spittlebug (Aphrophora saratogensis, Fitch)

Only one state forest area appears to be seriously infested with this pest this year after control measures were applied to a heavy infestation in Presque Isle County. (See Direct Control Measures). This area is in the southeastern part of Iron County in the Upper Peninsula where reports showed up to 60 percent injury. Of the 51 reports, 14 of them were positive. In addition to the Iron County infestation, light populations were reported from Kalkaska and Ottawa Counties.

Larch Casebearer (Coleophora laricella, Hbn.)

This insect continued to cause heavy defoliation in tamarack stands throughout the northern parts of the state. In many areas in the Lower Peninsula the extent of defoliation was somewhat less than in 1951 while throughout most of the Upper Peninsula, the average defoliation was well over 60 percent in 1952. There were 105 reports on this insect and only four of them were negative reports. No further collections have been made to determine the present distribution of the parasite (Agathis pumilis, Ratz.)** released near Ann Arbor in 1937. This beneficial insect was detected in the Upper Peninsula in 1951 and is thought to have spread some this year.

White Pine Weevil (Pissodes strobi, Peck)

Good coverage of the state was secured this year from the total of 133 reports. Of these, 85 were positive and showed the insect to be present throughout all but the extreme south-central part of the state. This insect is gradually increasing in numbers in young stands.

Anomala Beetle (Pachystethus oblivia, Horn)

There were 64 positive reports of this insect, all of them from the northern half of the Lower Peninsula. Manistee, Wexford, Kalkaska, and Montmorency Counties showed the heaviest injury. Defoliation of over 80 percent was found in some areas but a negligible amount of mortality was recorded. Field observations indicate little change in populations since 1951.

** - See Special Surveys, 1951 Pest Detection Report

Forest Tent Caterpillar (*Malacosoma disstria*, Hbn.)

This insect occurred in epidemic numbers throughout over 1,000,000 acres in the eastern end of the Upper Peninsula and the northern tip of the Lower Peninsula. Smaller infestations were also noted in Luce, Menominee, Schoolcraft, and Otsego Counties. Special surveys indicate that this insect will occur over still larger acreages in 1953. As stated in the special reports prepared on this pest, the 1953 infestations are expected in the following counties: Chippewa, Mackinac, Luce, Schoolcraft, Menominee, Emmet, Cheboygan, Presque Isle, Alpena, Otsego, and Charlevoix. (See map)

Miscellaneous Insects

Walkingstick (*Diapheromera femorata*, Say)

In Ogemaw and Dickinson Counties, this biennial insect was out in epidemic numbers in 1952. Environmental factors apparently were favorable for increases of this pest because it was abundant over a much larger area than in 1950. The aerial survey to map the defoliated areas detected heavy defoliation over some 21,500 acres in western Ogemaw County. (See Special Surveys) Defoliation in Dickinson County was restricted to less than 100 acres. In addition, light to medium defoliation was detected in southern Crawford County in the Sewell Tower area.

Eastern Tent Caterpillar (*Malacosoma americana*, F.)

After a buildup in 1950 and 1951, this pest occurred in outbreak numbers in certain areas throughout most of the northern half of the Lower Peninsula. Although it is not too important from an economic standpoint in that the primary food species is wild cherry, some concern is being caused by this insect. The occurrence of the unsightly "tents" in nearly every wild cherry along the road-sides is certainly not desirable from the aesthetic standpoint. Kalkaska and Missaukee Counties apparently were the hardest hit during the season. These counties will more than likely continue to be severely damaged as long as the present outbreak persists because of the extensive acreages of the upland cherry-brush type in these counties.

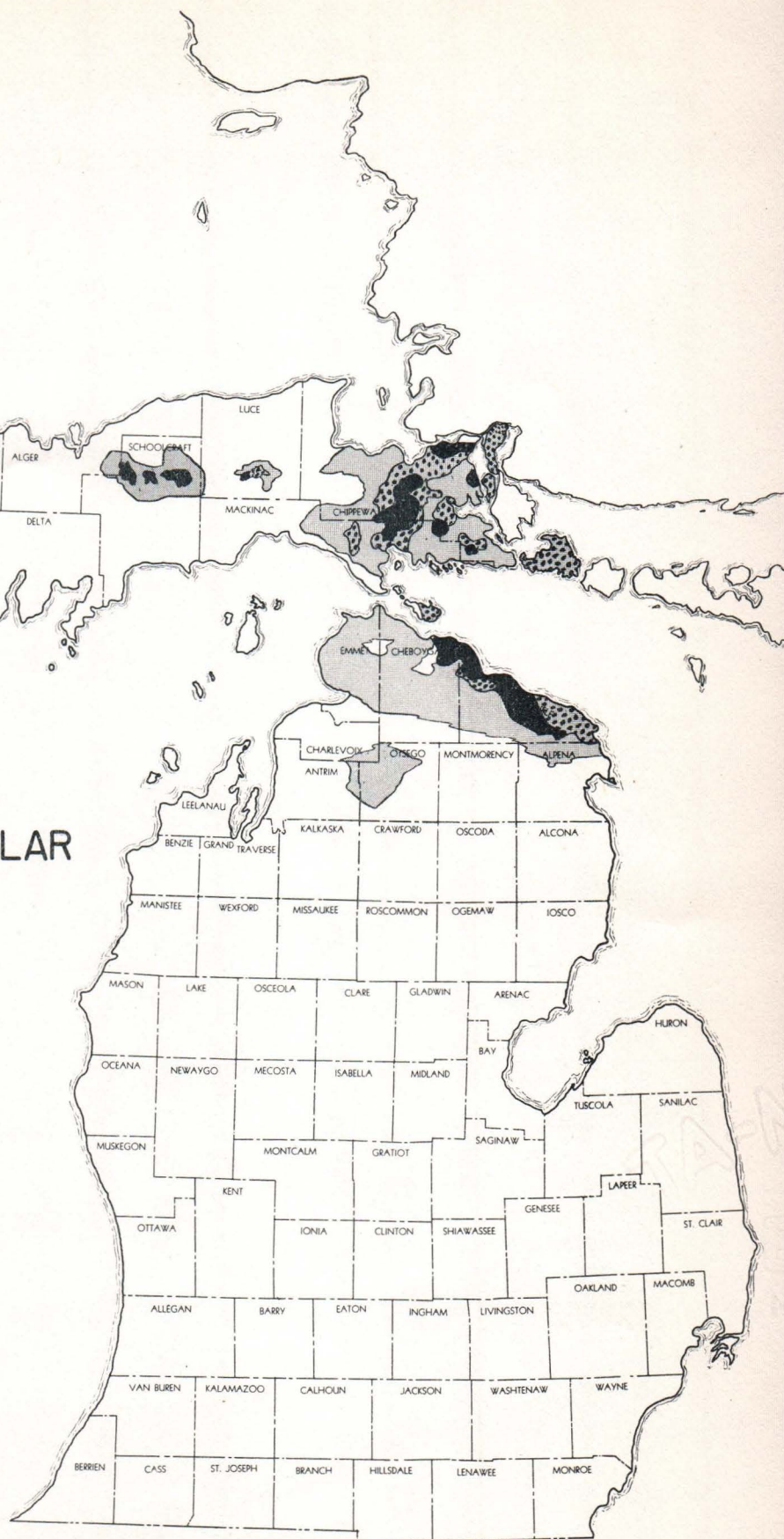
DISEASES

Oak Wilt

The oak wilt disease was positively identified in Michigan in June, 1951, from samples collected in Cass County. Details of the 1952 surveys and the present situation are described under "Special Surveys".

PREDICTION
FOREST TENT CATERPILLAR
DEFOLIATION
1953

- COMPLETE
- ▨ MEDIUM TO HEAVY
- LIGHT



Dutch Elm Disease

The Bureau of Plant Industry of the State Department of Agriculture is the coordinating agency for the Dutch Elm Disease program in Michigan. The following information concerning this program is taken from the "Annual Report on Dutch Elm Disease Control for 1952", which was prepared by the Bureau.

"Dutch elm disease caused by Ceratostamella ulmi, was first discovered in Michigan in 1950. First infections were found in the eastern Detroit-Grosse Pointe area adjacent to the Detroit River. Nine infected trees were found in the initial year.

"During 1950 and early 1951 several meetings were called by the Bureau of Plant Industry for the purpose of consulting with plant pathologists, entomologists, foresters, park superintendents and private arborists on the feasibility of establishing a control program. The response was enthusiastic and all agreed to cooperate with the Bureau in attempting control of this serious elm disease. One result of these meetings was the promulgation of Department Regulation No. 613 under Act 72, P.A. 1945. Among other things, this regulation declares elm trees and wood infected with the Dutch elm disease fungus to be a public menace. Other provisions of the regulation prohibit the movement of elm trees and wood from counties where the European elm bark beetle is known to occur.

"During 1951 a total of 74 diseased trees were found in the vicinity of Detroit. 58 trees were positively diagnosed for Dutch elm disease in the City of Detroit, 9 trees in Grosse Pointe City, 3 trees in Grosse Pointe Woods, 3 trees in Grosse Pointe Park and one in Grosse Ile. The Detroit infections were primarily adjacent to the Grosse Pointe area and across the river from Windsor, Ontario. The City of Detroit embarked on a survey and spray program in 1951 which helped to stimulate the interest of other municipalities in other areas in establishing similar projects.

"Since the European elm bark beetle, Scolytus multistriatus, is known as the principal insect carrier of the disease a survey for this pest was begun in 1950 in Southern Michigan counties. A previous survey had shown this particular species of beetle to be present in the counties of Wayne, Oakland, Monroe, Washtenaw and Lenawee. Thus, special emphasis was placed on the survey of adjacent counties. In 1951, bark beetles were found in Genesee and Macomb Counties, and in Kent County in 1952. The survey is being continued since the appearance of the European elm bark beetle has in the past forecast the occurrence of Dutch elm disease.

"The 1952 survey for Dutch elm disease although limited in extent when compared with the area that should be surveyed gave valuable help to the communities served and needed experience to the Bureau in conducting future surveys. Since the Grosse Pointe area was initially infected, a survey was begun in that area on June 16 and was continued into other nearby communities through the summer months. Bureau staff members made 397 calls in interest of these survey operations and in checking on the removal of diseased trees.

"The Department of Parks and Recreation of Detroit is certainly to be congratulated on the vigorous manner in which they have approached the control program for Dutch elm disease. They report that 11,993 city blocks were covered in surveying for diseased trees; that 43,326 trees received a dormant spray for European elm bark beetle; and 36,528 trees were given a foliage spray. Nearly \$27,000 was spent by Detroit for the control effort during the 1952 season.

"Because of the seriousness of the disease, we feel that this Department should do all that is possible to assist in this control. It is our earnest hope that within the near future funds will be made available so we may extend our activities in conducting surveys for the disease and in coordinating the control programs of the various interested communities. Without doubt, one of the greatest assets of the program thus far has been the cooperative laboratory established with the Department of Botany and Plant Pathology at Michigan State College. During the past season this laboratory processed 794 samples of elm wood submitted for test. Of these, 300 samples were found to be infected with Dutch elm disease, 58 with dothiorella wilt, and 15 with verticillium wilt. Certainly, it is fortunate that such a laboratory could be so quickly established following the closing of the Dutch elm disease laboratory at East Orange, New Jersey, in 1951."

PLANS FOR 1953

Plans for the Michigan Forest Pest Detection Program for 1953 include the following major projects:

1. Stabilization of the system of permanent observation areas and reporting procedures.
2. A detailed reconnaissance survey of the jack pine budworm infestation in Luce County.
3. Continuation of the pine budworm survey in Lower Michigan with special emphasis on the extent of tree mortality.
4. Continuation of the European pine sawfly virus disease studies.
5. An aerial survey of forest tent caterpillar defoliation.
6. Continued cooperation with private individuals in technical advice on control of the forest tent caterpillar.
7. Continued forest tent caterpillar egg and parasite studies and surveys.
8. A special larch sawfly detection survey.
9. Continuation of the oak wilt survey and rechecks of previously infected areas; continuation of infected tree removal.

SUMMARY

Six special surveys were conducted during the 1952 season. Three of these were made to study the progress of the forest tent caterpillar outbreak, including an aerial survey to locate the boundaries of defoliated areas, a cocoon mortality survey to determine the percentage of cocoon parasitism, and an egg mass survey to determine the approximate population densities for 1953. The other surveys were conducted to map walkingstick defoliation in Ogemaw county, to detect the presence of the larch sawfly in the Upper Peninsula, and to attempt to locate the northern limits of the oak wilt disease.

During the season, a total of 1370 observation reports were received, an increase of 296 over 1951. There was also an increase of 106 permanent observation areas throughout the state, bringing the total to 559.

The first aerial spray project on state forest land was conducted on the Black Lake State Forest for the control of the Saratoga spittlebug. Other direct control projects were carried out on the Manistee and Ottawa National Forests by the U. S. Forest Service for the control of the Saratoga spittlebug and the European pine shoot moth. After initial study by the Canadians, a virus disease affecting the larvae of the European pine sawfly was artificially disseminated at three locations in southern Michigan.

The jack pine budworm outbreak continued in the Lower Peninsula with the centers of the populations shifting to the north and west. A new outbreak of the pest was detected in Luce County.

Due to the detection of the European pine shoot moth in two locations in the northwestern part of the Lower Peninsula, this insect was placed on the critical list during mid-summer.

The forest tent caterpillar occurred in epidemic numbers over more than 1,000,000 acres in the eastern end of the Upper Peninsula and the northern part of the Lower Peninsula. Surveys indicate more widespread outbreaks in 1953, especially in the Lower Peninsula.

As a result of 1952 surveys, the total number of confirmed oak wilt cases now stands at 57, an increase of 28 over 1951. Control measures were initiated by attempting to obtain voluntary destruction of infected trees by private owners.

Dutch Elm disease survey and control work, as reported by the State Department of Agriculture, continued in the Detroit area. Preventative and control measures were applied to nearly 80,000 trees in the city of Detroit. At the end of 1952, 300 positive cases of the disease had been discovered.